



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

Refer to:  
2003/00456

June 6, 2003

Mr. Gary L. Larson  
Forest Supervisor  
Mt. Hood National Forest  
16400 Champion Way  
Sandy, Oregon 97055-7248

Re: Endangered Species Act Formal Section 7 Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Mt. Hood Kiwanis Camp Improvements and Special Use Permit Authorization Project, Mt. Hood National Forest, Little Zigzag River, Sandy River Basin, Clackamas County, Oregon

Dear Mr. Larson:

Enclosed is a biological opinion (Opinion) prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act that addresses the proposed Mt. Hood Kiwanis Camp Improvements and Special Use Permit Authorization Project in the Mt. Hood National Forest. NOAA Fisheries concludes in this Opinion that the proposed action is not likely to jeopardize Lower Columbia River (LCR) steelhead (*Oncorhynchus mykiss*) or Lower Columbia/Southwest Washington (LCSW) coho salmon (*O. kisutch*). This Opinion includes reasonable and prudent measures with terms and conditions that are necessary and appropriate to minimize the potential for incidental take associated with this project.

This document also serves as consultation on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR Part 600. The Sandy River and tributaries has been designated as EFH for chinook salmon (*O. tshawytscha*) and coho salmon.

If you have any questions regarding this consultation please contact Ron Lindland of my staff in the Oregon Habitat Branch, at 503.231.2315.

Sincerely,

*Michael R. Crouse*  
D. Robert Lohn  
Regional Administrator



cc: Dan Shively, MHNF  
Brad Goehring, USFWS

# Endangered Species Act - Section 7 Consultation Biological Opinion

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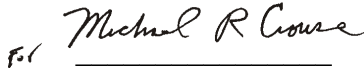
## Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Mt. Hood Camp Improvements and Special Use Permit Authorization,  
Little Zigzag River, Sandy River Basin,  
Clackamas County, Oregon

Agency: USDA Forest Service

Consultation  
Conducted By: NOAA's National Marine Fisheries Service,  
Northwest Region

Date Issued: June 6, 2002

Issued by:   
D. Robert Lohn  
Regional Administrator

Refer to: 2003/00456

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## **1. INTRODUCTION**

### **1.1 Consultation History**

NOAA's National Marine Fisheries Service (NOAA Fisheries) received a letter and an attached complete biological assessment (BA) on April 22, 2003, from the Mt. Hood National Forest (MHNF) requesting formal Endangered Species Act (ESA) and Magnuson-Stevens Fishery Conservation and Management Act (MSA) consultation on the effects of Mt. Hood Kiwanis Camp Improvements and Special Use Permit Authorization Project on Lower Columbia River (LCR) steelhead (*Oncorhynchus mykiss*). The MHNF also requested conferencing under the ESA for candidate species Lower Columbia River/Southwest Washington (LCSW) coho salmon. The Willamette Level 1 Team reviewed the biological assessment for this project on February 10, 2003, and again on April 1, 2003. The Mt. Hood Kiwanis Camp is on MHNF land along the Little Zigzag River approximately 0.4 mile upstream from its mouth. The Little Zigzag River is a tributary to the Zigzag River. The Little Zigzag River is not designated as a key watershed under the Northwest Forest Plan (NFP). The MHNF determined in the BA that the proposed action is "likely to adversely affect" (LAA) LCR steelhead and LCSW coho salmon.

NOAA Fisheries listed LCR steelhead as threatened under the ESA on March 19, 1998(63 FR 13347). NOAA Fisheries issued protective regulations for LCR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). NOAA Fisheries found LCSW coho salmon were not warranted for listing on July 25, 1995 (60 FR 38011). LCSW coho salmon are currently a candidate species.

The objective of this Opinion is to determine whether implementing the activities included in the Mt. Hood Kiwanis Camp Improvements and Special Use Permit Authorization Project are likely to jeopardize the continued existence of LCR steelhead or LCSW coho salmon.

The objective of the EFH consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

### **1.2 Proposed Action**

The current Special Use Permit (SUP) for use of the Mt. Hood Kiwanis Camp expires in 2009. A new 30-year SUP would be issued by the MHNF to the Mt. Hood Kiwanis Camp for exclusive use and occupancy of the project area. The camp provides outdoor experiences to children and adults with disabilities. Several proposed improvements would be made to comply with requirements of the Americans With Disabilities Act. Before renewal of the SUP, a number of modifications and improvements are proposed for the Mt. Hood Kiwanis Camp area. These include: (1) Removal of the existing Hemlock Dormitory building (2600 square feet); (2) construction of seven new camper cabins and a camp director's cabin (each 1,300 square feet); (3) construction of a health care/office building (1,300 square feet); (4) construction of an

open-air shelter (300-500 square feet) in the ropes course area; (5) construction of an indoor swimming pool in approximately the same location as the existing outdoor pool (6,400 square feet); (6) construction of a new maintenance building (2,400 square feet); (7) reconstruction of the existing septic system/drain field and installation of a new drain field in the current upper equestrian area farther (approximately 375 feet) from the creek; (8) construction of a Barlow Trail Interpretive sign at base of the existing trace of the Old Barlow Trail; (9) construction of a new semi-permeable, “eco-paved”<sup>1</sup> parking area (15,000 square feet); (10) conversion of the existing maintenance building to staff housing and lounge; (11) creation of a consolidated outdoor educational area to replace the existing trail along the creek; (12) reconstruction of the existing bridge across Little Zigzag River at the main camp entrance<sup>2</sup>; (13) enlargement (to approximately 1500-2000 square feet) of the existing fish pond and maintenance of proper screening to prevent fish which are stocked in the pond from entering Little Zigzag River; (14) reduction in size of the existing maintenance yard and riparian planting along that edge of the yard along the creek; (15) modification of the existing foot bridge across Little Zigzag River to a covered bridge using untreated cedar; (16) planting with native vegetation along approximately 1,000 linear feet of streambank on Little Zigzag River (approximately 20,000 square feet revegetated); (17) decommissioning and revegetating of the existing interpretive trail along Little Zigzag River; and (18) planting with native vegetation of approximately 55,000 square feet of other existing disturbed areas within the camp area. Activities listed above would be conducted over a period of approximately ten years, beginning in 2003. The chronological order of activities has not yet been determined.

According to the BA, the proposed action does not represent any expansion of the existing SUP boundary at the Mt. Hood Kiwanis Camp, the current authorized capacity of the camp, or current authorized camp uses.

Although tree removal would be minimized to the greatest extent possible, some trees would need to be felled in the area where new camper cabins and the camp directors cabin would be built, in the area of the new parking lot, and in the area of the new septic drain field. In the area where new cabins would be built, approximately 30-50 small (4- to 8-inch diameter at the base) trees would be removed. This area is an average of 150 feet from Little Zigzag River. In the proposed new parking area, approximately 5-10 trees (12- to 18-inch diameter) would be felled. These trees would be left on site or stockpiled for use in future instream restoration work. This area is from 60 to 150 feet from Little Zigzag River. In the area of the new septic drain field, approximately 20-30 trees (6- to 12-inch diameter) would need to be felled. Some of these trees

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<sup>1</sup> “Eco-paving” refers to the use of paving stones with spaces between or within them to allow for percolation of runoff into the ground, reducing runoff and potential sediment impacts on nearby waterways. Typically placed over a crushed rock base. In addition, bioswales and other water filtering methods would be constructed along the edge of the parking area closest to the Little Zigzag River to further reduce the potential impacts of runoff.

<sup>2</sup> This would be in conjunction with, and coordinated with, the culvert replacement proposed by the Mt. Hood National Forest under a separate project.

would also be stockpiled. The proposed new septic drain field area is approximately 375 feet from Little Zigzag River.

The swimming pool would need to be drained periodically. Before draining, chlorine in the pool water would be neutralized. Water would then be drained into the septic system.

### **1.2.1 Minimization Measures**

According to the BA, best management practices (BMPs) are integral components of this project. BMPs are the primary mechanism to enable the achievement of water quality standards to ensure compliance with: (1) The Clean Water Act of 1972, as amended (1977 and 1987); (2) Oregon Administrative Rules (OAR 340-41-001-975, Oregon Department of Environmental Quality (DEQ); and (3) the Memorandum of Understanding between the Oregon DEQ and the USDA, Forest Service.

According to the BA, the following BMPs are applied as a system of practices designed to accommodate site-specific conditions. They are tailor-made to account for the complexity and physical and biological variability of the natural environment. General BMPs are described in the document General Best Management Practices, USDA Forest Service, Pacific Northwest Region (11/88). BMPs are primarily based on and include various requirements as Forest Service Manual direction, timber sale contract provisions, environmental documents, Mt. Hood Forest Plan Standards and Guidelines, and the Northwest Forest Plan Standard and Guidelines which includes the Aquatic Conservation Strategy (ACS).

Most construction activities would take place during the dry period (typically between June 15 and October 31) to limit the likelihood of surface erosion and sediment transport, and to reduce the intensity and duration of anticipated short-term turbidity increases. This restriction may be waived with the concurrence of a soil, watershed, or fisheries specialist if long periods of dry weather are anticipated. No in-water work is proposed. Standard sediment control methods (*e.g.* sedi-mats, straw bales, silt fences) would be used as appropriate to prevent or minimize sediment transport to streams. Disturbed areas within the project area will be planted and revegetated with native plants to help control any future erosion. The objective of erosion control measures is to have no detectable short- or long-term increase in sediment levels below the project site.

A site-specific spill prevention control and countermeasure plan for project sites and staging areas would be developed. If fuels are stored in the project area, the Forest Service would approve the site in advance. Appropriate measures for containment, such as berms and catch basins with plastic liners would be used.

Currently, no fertilizers are used in the Mt. Hood Kiwanis Camp area. If fertilizers are used in the future, none would be applied within 50 feet of Little Zigzag River.

The number of access points through riparian areas would be minimized. Existing pathways along the Little Zigzag River would be decommissioned and re-vegetated with native vegetation.

Construction of new buildings would be concentrated in previously disturbed areas to minimize impacts to native vegetation. This would also minimize the need for tree removal.

Semi-permeable surfaces (eco-paving material) and incorporation of bio-swales would be used in the proposed new parking area. Parking areas and camp access roads would be graded such that channelization and runoff into Little Zigzag River is avoided.

## **2. ENDANGERED SPECIES ACT**

### **2.1 Biological Opinion**

#### **2.1.1 Biological Information**

The listing status and biological information for LCR steelhead are described in Busby *et al.* (1996) and NMFS (1997). The Zigzag River and Little Zigzag River downstream from the Mt. Hood Kiwanis Camp provides spawning, rearing, and migratory habitat for both adult and juvenile life stages of LCR steelhead.. According to the BA, LCSW coho salmon are thought to have been historically present in the Little Zigzag River, and currently spawn and rear in the Zigzag River. The listing status and biological information for LCSW coho salmon are described in Weitkamp *et al.* (1995).

Essential features of the adult spawning, juvenile rearing, and adult and juvenile migratory habitats for the species are substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions (50 CFR 226.212). The essential features that the proposed project may affect are safe passage conditions, substrate, water quality, and riparian vegetation resulting from project activities.

#### **2.1.2 Evaluating Proposed Action**

The standards for determining jeopardy and destruction or adverse modification of critical habitat are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NOAA Fisheries uses the following steps of the consultation regulations combined with the Habitat Approach (NMFS 1999): (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species and whether the action is consistent with the available recovery strategy; (4) consider cumulative effects; and (5) determine whether the proposed action, in light of the above factors is likely to appreciably reduce the likelihood of species survival in the wild or destroy or



adversely modify critical habitat. In completing this step of the analysis, NOAA Fisheries determines whether the action under consultation, together with cumulative effects when added to the environmental baseline, is likely to jeopardize the ESA-listed species or result in the destruction or adverse modification of critical habitat. If either or both are found, NOAA Fisheries will identify reasonable and prudent alternatives for the action that avoid jeopardy or destruction or adverse modification of critical habitat.

### **2.1.3 Biological Requirements**

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed salmonids is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with information considered in its decision to list LCR steelhead for ESA protection and also considers new data available that are relevant to the determination.

The relevant biological requirements are those necessary for LCR steelhead and LCSW coho salmon to survive and recover to naturally-reproducing population levels, at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. LCR steelhead and LCSW coho salmon survival in the wild depends upon the proper functioning of certain ecosystem processes, including habitat formation and maintenance. Restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while removing adverse impacts of current practices. In conducting analyses of habitat-altering actions, NOAA Fisheries defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and applies a "habitat approach" to its analysis (NMFS 1999). The current status of the LCR steelhead and LCSW coho salmon, based upon their risk of extinction, has not significantly improved since LCR steelhead were listed and LCSW coho salmon were considered for listing.

### **2.1.4 Environmental Baseline**

In step 2 of NOAA Fisheries' analysis, we evaluate the relevance of the environmental baseline in the action area to the species' current status. The environmental baseline is an analysis of the effects of past and ongoing human-caused and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area includes, "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area for this consultation, therefore, includes the streambed and streambanks of Little Zigzag River from the upstream edge of the

Mt. Hood Kiwanis Camp downstream to the confluence of the Little Zigzag River with the Zigzag River.

The current population status and trends for LCR steelhead are described in Busby *et al.* (1996) and in NMFS (1997); and for LCSW coho salmon in Weitkamp *et al.* (1995). In general, the current status of LCR steelhead and LCSW coho salmon populations is the result of several long-term, human-induced factors (*e.g.*, habitat degradation, water diversions, hydropower dams) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions.

Environmental baseline conditions within the action area were evaluated for the subject action at the project level and watershed scales. This evaluation was based on the “matrix of pathways and indicators (MPI) described in “Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” (NMFS 1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species.

In the Little Zigzag River 6<sup>th</sup> Field Watershed, six of the 18 habitat indicators in the MPI were rated as properly functioning. These were water temperature, chemical contamination/nutrients, off-channel habitat, refugia, streambank condition, and peak/base flows. Four of the 18 indicators were rated as functioning “at risk.” These were sediment, width/depth ratio, drainage network increase, and road density and location. The physical barriers, substrate, large woody debris, pool frequency, pool quality, disturbance history, and riparian reserve indicators were rated as not properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA and incorporated herein by reference.

In the Zigzag River 5<sup>th</sup> field watershed (of which Little Zigzag River is a part), two of the 18 habitat indicators in the MPI were rated as properly functioning. These were temperature and substrate. Nine indicators were rated as functioning “at risk”. These were sediment, chemical contamination/nutrients, pool quality, off-channel habitat, width/depth ratio, streambank condition, floodplain connectivity, peak/base flows, and drainage network increase. The physical barriers, large woody debris, pool frequency, road density and location, and riparian reserve indicators were rated as not properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA and incorporated herein by reference.

### **2.1.5 Effects of Proposed Action**

In step 3 of the jeopardy analysis, NOAA Fisheries evaluates the effects of the proposed action on listed fish and their habitat.

The ground-disturbing activities associated with the proposed improvements to the Mt. Hood Kiwanis Camp have the potential to cause sediment transport to and increase turbidity in the Little Zigzag River. Proposed activities would be conducted over a period of approximately ten

years, beginning in 2003. Therefore, the area of ground to be disturbed in any given year would be minimal. These ground-disturbing activities include: (1) Decommissioning of the trail along Little Zigzag River; (2) demolition and removal of the existing Hemlock Dormitory building; (3) clearing and preparation of ground upon which new buildings would be erected; (4) expansion of the existing fish pond; (5) installation of sewer lines to the new drain field; and (6) construction of the new parking area. The area of the Mt. Hood Kiwanis Camp is generally flat for 80 to 100 feet from the edges of Little Zigzag River. The trail to be decommissioned is within 20 feet of the Little Zigzag River for much of its length. The proposed new cabins would be 90 to 260 feet from the river, the new maintenance building 60 feet, the indoor swimming pool 120 feet (approximately the same location as the existing pool), the camp director's cabin 275 feet, and the health care building 190 feet. The expanded fish pond would be 190 feet from the river at its closest point, and the proposed new drain field location is approximately 375 feet from the river. Because the ground is generally flat and because sediment control measures (sedi-mats, mulching, silt fences, *etc.*) will be implemented, transport of sediment to Little Zigzag River as a result of construction activities is expected to be minimal. In addition, ground disturbance during any given year would be minimal, and most construction activities would take place during the dry season between June 15 and October 31 each year. Therefore, NOAA Fisheries believes that the proposed actions would cause a minor, short-term increase in stream turbidity in the Little Zigzag River at the site and for a short distance downstream.

Construction of the new buildings will create a total of approximately 13,100 square feet of new impervious surface. Each camper cabin occupies approximately 1,300 square feet, the camp director's cabin 1,300 square feet, the maintenance building 2,400 square feet, and the health care building 1,300 square feet. As mentioned above, the closest new building to Little Zigzag River is approximately 60 feet from the river. The proposed new parking area would cover an additional 15,000 square feet. However, as mentioned above, the parking area would be surfaced with semi-permeable "eco-paving" material and a bio-swale installed between the parking area and the river. The distance of the proposed new buildings from Little Zigzag River, flatness of the terrain for 80 to 100 feet out from the edges of the river, and incorporation of "eco-paving" and bio-swales is expected to minimize any increased run-off to the river. In addition, decommissioning of the existing trail along the river, re-vegetating of approximately 20,000 square feet along 1,000 lineal feet of streambank, and re-vegetating of approximately 55,000 square feet in various areas throughout the camp would more than off-set any increased run-off created by new impervious surfaces.

As stated above, some trees would need to be felled in the area where new camper cabins and the camp directors cabin would be built and in the area of the new septic drain field. In the area where new cabins would be built, approximately 30-50 small (4- to 8-inch diameter at the base and 15 to 40 feet tall) trees would be removed. This area is an average of 150 feet from Little Zigzag River. In the area of the new septic drain field, approximately 20-30 trees (6- to 12-inch diameter) would need to be felled. The proposed new septic drain field area is approximately 375 feet from Little Zigzag River. Because of the distance of these areas from Little Zigzag River, flatness of the terrain, and small size of the trees, removal of trees in these two areas is not

expected to effect stream shade or potential large woody debris recruitment to the Little Zigzag River.

In the proposed new parking area, approximately 5-10 trees (12- to 18-inch diameter) would be felled. This area is from 60 to 150 feet from Little Zigzag River. Because of the larger size of these trees and closer proximity to Little Zigzag River, trees over 12 inches in diameter, which are felled on this area will be left on site in the riparian area but outside the parking area. Because removal of trees at this site would be selective and because numerous other trees would remain, any loss of stream shade is expected to be minimal.

Potential beneficial effects resulting from the proposed Mt. Hood Kiwanis Camp Improvements Project include: (1) Decreased potential for sediment transport to Little Zigzag River as a result of decommissioning and re-vegetating of the existing trails along the river (approximately 1,000 lineal feet along the river and 20,000 square feet in area), and re-vegetating of approximately 55,000 square feet of other existing disturbed areas throughout the camp area; and, (2) reconstruction and relocation of the septic drain field to an area approximately 375 feet from the Little Zigzag River would allow improved treatment of wastewater to meet state and county standards and prevent fecal contaminants from entering the Little Zigzag River.

In summary, all relevant aquatic habitat indicators will be maintained at the 6<sup>th</sup> Field Watershed (Little Zigzag River) scale. As discussed above, there could be short term increases in turbidity in the Little Zigzag River at the project site as a result of ground-disturbing activities. Loss of stream shade as a result of tree removal in the proposed new parking area is expected to be minimal. There is a slight potential of a fuel spill at the site as the result of a vehicle accident during construction activities or during routine camp operation. In the long term, decommissioning and revegetation of the existing trail along the Little Zigzag River and revegetation of other disturbed sites throughout the Mt. Hood Kiwanis Camp could result in decreased erosion and sediment transport to the river.

#### **2.1.6 Cumulative Effects**

Cumulative effects are defined in 50 CFR 402.02 as “those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.” This is step 4 in NOAA Fisheries’ analysis process. Future Federal actions are being, have been, or will be reviewed through separate section 7 consultation processes. Therefore, these actions are not considered cumulative to the proposed action.

NOAA Fisheries is not aware of any specific, future, non-Federal activities within the proposed action area that would cause greater impacts to listed species or their habitat than presently occurs. NOAA Fisheries assumes that future private and state actions will continue at intensities similar to present levels.

### **2.1.7 Conclusion**

The final step in NOAA Fisheries' approach to determine jeopardy is to determine whether the proposed action is likely to appreciably reduce the likelihood of species survival or recovery in the wild. NOAA Fisheries has determined that, when the effects of the proposed Mt. Hood Kiwanis Camp Improvements and Special Use Permit Authorization Project addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, it is not likely to jeopardize the continued existence of LCR steelhead or LCSW coho salmon. NOAA Fisheries believes that the proposed actions would cause a minor, short-term increase in stream turbidity in Little Zigzag River.

These conclusions are based on the following considerations: (1) Flatness of the terrain along Little Zigzag River where the Mt. Hood Kiwanis Camp is, and implementation of appropriate sediment control measures is expected to minimize sediment transport to the river; (2) turbidity increases in the Little Zigzag River which may result from any sediment transport that does occur are expected to be of short duration; (3) no in-water work is proposed; (4) implementation of the proposed improvements to the Mt. Hood Kiwanis Camp over a period of approximately ten years will mean that ground disturbance in any given year will be minimal; (5) use of eco-paving material and installation of bio-swales in association with the proposed new parking area is expected to minimize run-off to the Little Zigzag River; (6) trees which are 12 inches in diameter or greater that are felled in the area of the proposed new parking area would be left on site or stockpiled for use in future instream restoration work; and (7) NOAA Fisheries expects that the net effect of the proposed action will be to maintain or help restore properly functioning habitat conditions in the project area of the Little Zigzag River.

### **2.1.8 Conservation Recommendations**

Section 7 (a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of proposed actions on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NOAA Fisheries has no additional conservation recommendations regarding the action addressed in this Opinion.

### **2.1.9 Reinitiation of Consultation**

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or, (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR. 402.16).

## **2.2 Incidental Take Statement**

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. “Harass” is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. “Incidental take” is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply to implement the reasonable and prudent measures.

### **2.2.1 Amount or Extent of the Take**

NOAA Fisheries anticipates that the proposed actions are reasonably certain to result in incidental take of species listed in this Opinion because of detrimental effects from increased sediment levels and limited riparian habitat disturbance (harm).

Effects of actions such as minor sedimentation and minor riparian disturbance are unquantifiable in the short term and are not expected to be measurable as long-term harm to habitat features or by long-term harm to salmonid behavior or population levels. Therefore, even though NOAA Fisheries expects some low level incidental take to occur due to the proposed actions covered by this Opinion, best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate the specific amount of incidental take to the species itself. In instances such as these, NOAA Fisheries designates the expected level of take as “unquantifiable.” Based on the information in the biological assessment, NOAA Fisheries anticipates that an unquantifiable amount of incidental take could occur as a result of the habitat altering actions covered by the Opinion. The extent of the take includes the aquatic and associated riparian habitats affected by the proposed project.

### **2.2.2 Effect of Take**

In this Opinion, NOAA Fisheries determines that this level of anticipated take is not likely to result in jeopardy to LCR steelhead or LCSW coho salmon.

### 2.2.3 Reasonable and Prudent Measures

NOAA Fisheries believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species. The MHNH shall:

1. Minimize the likelihood of incidental take from activities involving use of heavy equipment, earthwork, or site restoration by directing the contractor to avoid or minimize disturbance to riparian and aquatic systems.
2. Reduce loss of habitat value from tree removal by keeping downed trees over 12 inches in diameter on site and ensuring the success of revegetation activities.
3. Monitor the effectiveness of the conservation measures (*e.g.*, trail decommissioning, riparian plantings, erosion control measures, streambank stabilization) in minimizing take of LCR steelhead or LCSW coho salmon.

### 2.2.4 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, The MHNH must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (heavy equipment, earthwork, or site restoration), the MHNH shall ensure that:
  - a. Project design. The project will be reviewed to ensure that impacts to natural resources have been avoided, minimized and mitigated, and that the following overall project design conditions are met.
    - i. Minimum area. Construction impacts will be confined to the minimum area necessary to complete the project.
    - ii. Pollution and erosion control plan. A pollution and erosion control plan (PECP) will be developed for the project to prevent point-source pollution related to construction operations. The PECP will contain the pertinent elements listed below and meet requirements of all applicable laws and regulations.
      - (1) Methods that will be used to prevent erosion and sedimentation associated with construction sites, equipment and material storage sites, fueling operations and staging areas.
      - (2) Methods that will be used to confine, remove, and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.
      - (3) A description of the hazardous products or materials that will be used, including inventory, storage, handling, and monitoring.

- (4) A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures will be available on site, proposed methods for disposal of spilled materials, and employee training for spill containment.
- b. Pre-construction activities. Before significant alteration of the action area, the following actions will be accomplished.
  - i. Boundaries of the clearing limits associated with site access and construction are flagged to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.
  - ii. The following erosion control materials are onsite.
    - (1) A supply of erosion control materials (*e.g.*, silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.
    - (2) An oil-absorbing, floating boom is available on-site during all phases of construction whenever surface water is present.
  - iii. All temporary erosion controls (*e.g.*, straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective.
- c. Heavy Equipment. Heavy equipment use will be restricted as follows.
  - i. When heavy equipment is required, the applicant will use equipment having the least impact (*e.g.*, minimally-sized, rubber-tired).
  - ii. Heavy equipment will be fueled, maintained and stored as follows.
    - (1) Place vehicle staging, maintenance, refueling, and fuel storage areas a minimum of 150 feet horizontal distance from any stream.
    - (2) All vehicles operated within 150 feet of any stream or waterbody will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation.
    - (3) When not in use, vehicles will be stored in the vehicle staging area.
- d. Earthwork. Earthwork, including drilling, blasting, excavation, dredging, filling and compacting, is completed in the following manner:
  - i. All exposed or disturbed areas will be stabilized to prevent erosion.
    - (1) Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by native seeding,<sup>3</sup> mulching, and placement of erosion control blankets and mats, if applicable,

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<sup>3</sup> By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is, shall be used.



- quickly as reasonable after exposure, but within seven days of exposure. Non-native sterile seed mix may be used the first year for temporary erosion control.
- (2) All other areas will be stabilized as quickly as reasonable, but within 14 days of exposure.
  - (3) Seeding outside of the growing season will not be considered adequate nor permanent stabilization.
- ii. All erosion control devices will be inspected during construction to ensure that they are working adequately.
    - (1) Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites.
    - (2) If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.
    - (3) Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.
  - iii. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.
  - iv. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground five inches. Catch basins will be maintained so that no more than six inches of sediment depth accumulates within traps or sumps.
  - v. Sediment-laden water created by construction activity will be filtered before it leaves the right-of-way or enters a stream or other waterbody. Silt fences or other detention methods will be installed as close as reasonable to culvert outlets to reduce the amount of sediment entering aquatic systems.
2. To implement reasonable and prudent measure #2 (tree removal), the MHNF shall ensure that:
- a. Onsite woody debris. Any trees 12 inches or more in diameter at the butt which are cut or uprooted on the project site will be left on site or stockpiled for use in future stream restoration projects.
  - b. Planting. Revegetation at the project sites is completed in the following manner:
    - i. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at finished grade with mulch, native herbaceous seeding, and native woody vegetation.

- ii. Disturbed areas will be planted with native vegetation specific to the project vicinity or the region of the state where the project is, and will comprise a diverse assemblage of woody and herbaceous species.
- iii. Plantings will be arranged randomly within the revegetation area. Approximate placement of trees will be specified before construction begins.
  - (1) If revegetation success has not been achieved after 3 years, the applicant will submit an alternative plan to the MHNH. The alternative plan will address temporal loss of function.
  - (2) Plant establishment monitoring will continue and plans will be submitted by the applicant to the MHNH until site restoration success has been achieved.
- iv. No herbicide application will occur within 300 feet of any stream channel as part of this permitted action, unless approved in advance by a NOAA Fisheries biologist. Mechanical removal of undesired vegetation and root nodes is permitted.
- v. No surface application of fertilizer will be used within 50 feet of any stream channel as part of this permitted action.

3. To implement reasonable and prudent measure #3 (monitoring), the MHNH shall:

- a. Within 30 days of completing the project, the MHNH will submit a monitoring report to NOAA Fisheries describing the MHNH's success meeting these terms and conditions. This report will consist of the following information:
  - i. Project identification:
    - (1) Project name.
    - (2) Starting and ending dates of work completed for each phase of the project.
    - (3) Name and address of the construction supervisor.
  - ii. A narrative assessment of the project's effects on natural stream function.
  - iii. Photographic documentation of environmental conditions at the project site before, during and after project completion.
- b. Additional project-specific data, as appropriate for each phase of the project.
  - i. Site restoration:
    - (1) Planting composition and density.
    - (2) Control of invasive non-native vegetation.
    - (3) Success of riparian plantings.
    - (4) Effectiveness of trail decommissioning in reducing sediment transport to streams.
  - ii. Streambank protection: (if applicable)
    - (1) Type and amount of material used.
    - (2) Linear feet of streambank protected.

- c. Monitoring reports will be submitted to:  
NOAA Fisheries  
Oregon Habitat Branch  
**Attn: 2003/00456**  
525 NE Oregon Street, Suite 500  
Portland, OR 97232-2778

### **3. MAGNUSON-STEVENSON ACT**

#### **3.1 Magnuson-Stevens Fishery Conservation and Management Act**

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species’ full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reason for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to

encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

### **3.2 Identification of EFH**

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

### **3.3 Proposed Actions**

The proposed action is detailed above in section 1.2 of this document. The action area includes the Little Zigzag River in the Sandy River basin. This area has been designated as EFH for various life stages of chinook salmon and coho salmon.

### **3.4 Effects of Proposed Action**

As described in detail in the ESA portion of this consultation, the proposed activities would result in detrimental, short-term, adverse effects to a variety of habitat parameters.

### **3.5 Conclusion**

NOAA Fisheries believes that the proposed action will temporarily adversely affect the EFH for coho salmon and chinook salmon.

### **3.6 EFH Conservation Recommendations**

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. In addition to conservation measures proposed for the project by the MHNf, all of the reasonable and prudent measures and the terms and conditions contained in sections 2.2.3 and 2.2.4, respectively, of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

### **3.7 Statutory Response Requirement**

The MSA (section 305(b)) and 50 CFR 600.920(j) requires the MNF to provide a written response to NOAA Fisheries' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NOAA Fisheries' conservation recommendations, the MHNF shall explain its reasons for not following the recommendations.

### **3.8 Supplemental Consultation**

The MHNF must reinitiate EFH consultation with NOAA Fisheries if either the action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

#### 4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on “the best scientific and commercial data available.” This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NOAA Fisheries and provided by the MNF.

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NOAA Fisheries (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon. September 4, 1996.

NOAA Fisheries (National Marine Fisheries Service). 1999. The Habitat Approach: Implementation of Section 7 of the Endangered Species Act for Actions Affecting the Habitat of Pacific Anadromous Salmonids. Guidance memorandum from Assistant Regional Administrators for Habitat Conservation and Protected Resources to staff. 3 pages. August. (Available @ [www.nwr.noaa.gov](http://www.nwr.noaa.gov) , under Habitat Conservation Division, Habitat Guidance Documents).

PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon. Portland, Oregon.

Weitkamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dept. Commerce, NOAA Technical Memorandum NMFS-NWFSC-24. September.